

(No Model.)

J. F. ALLEN.
Tool Holder.

No. 238,322.

Patented March 1, 1881.

Fig. II.

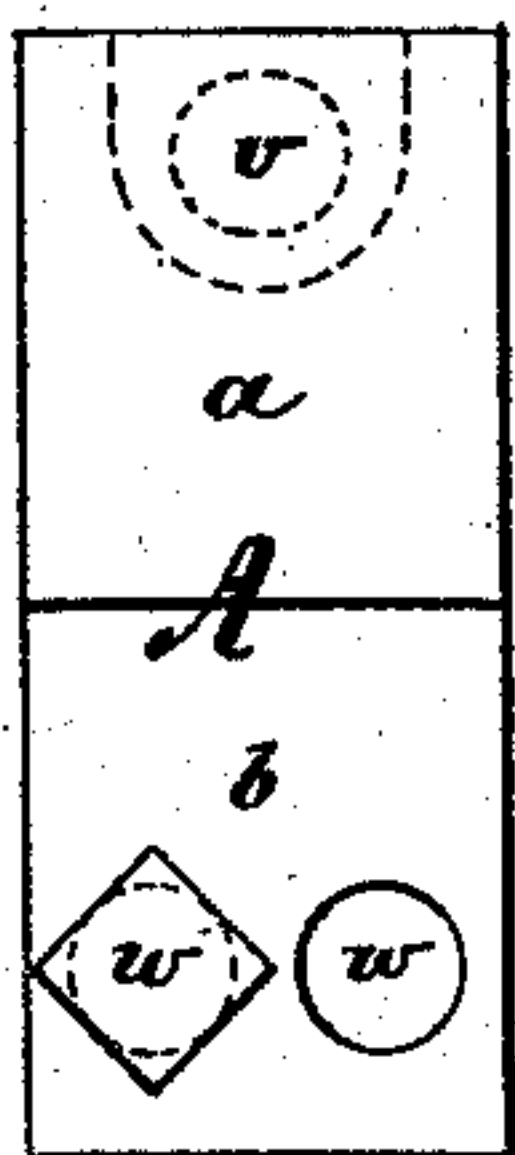


Fig. I.

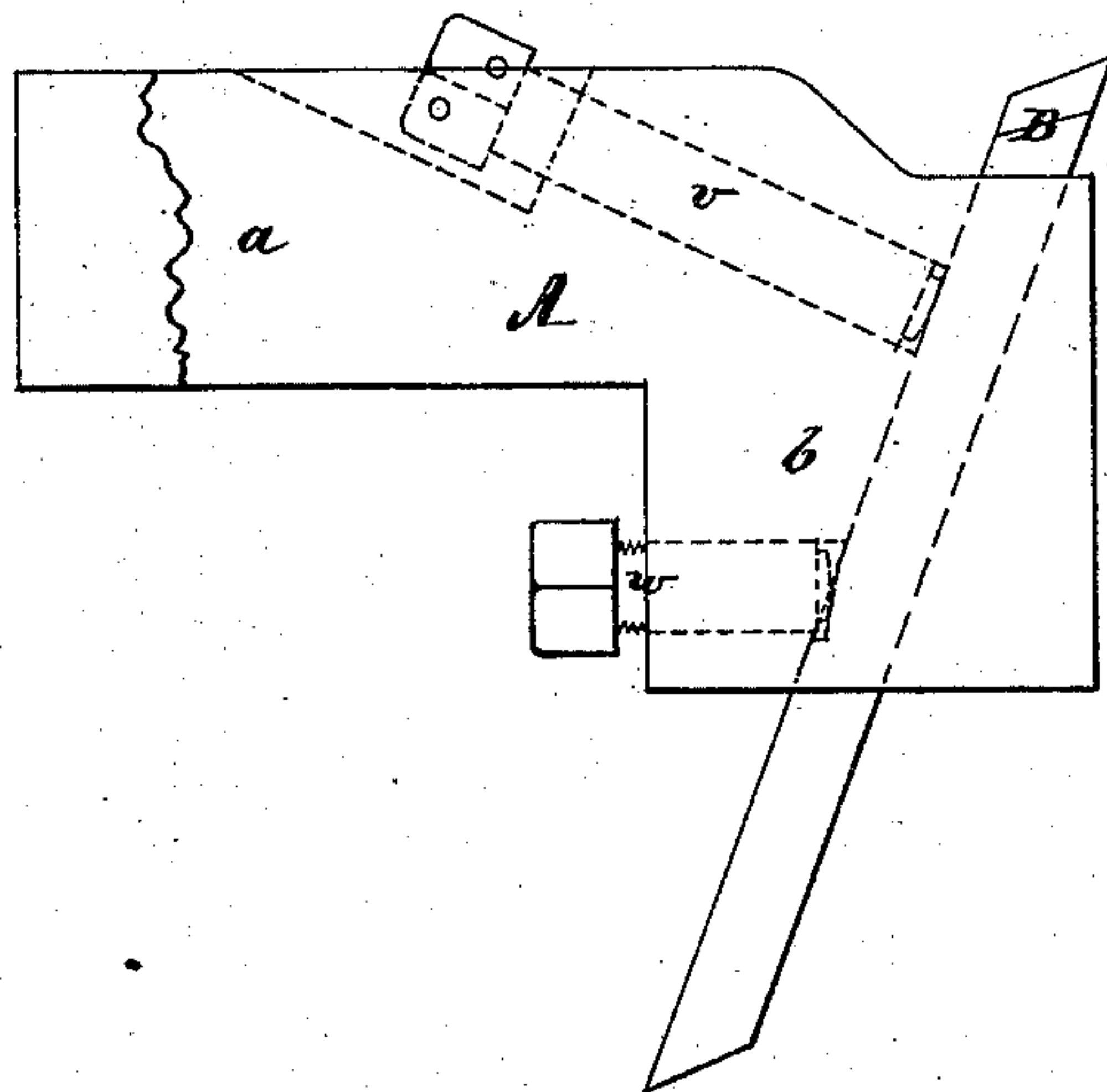


Fig. III.

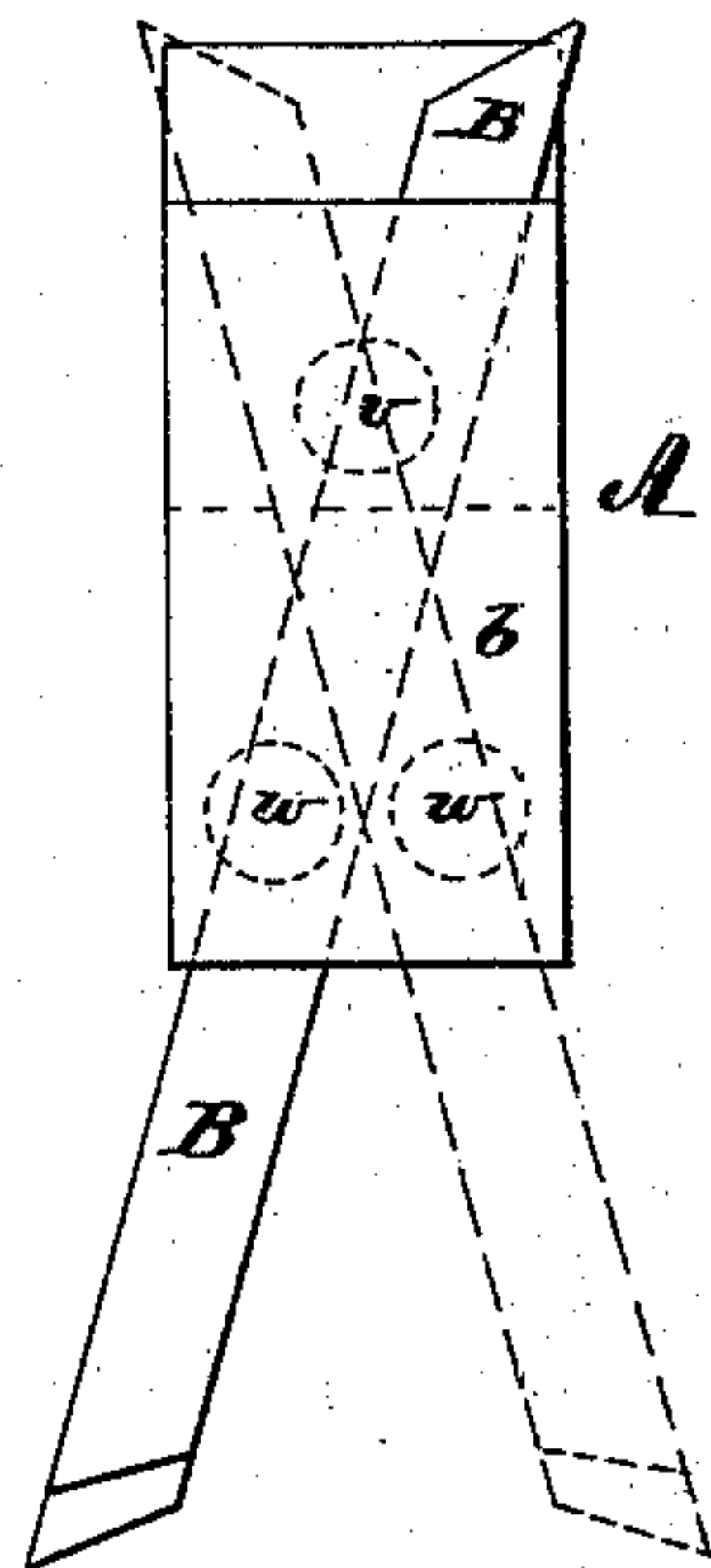


Fig. IV.

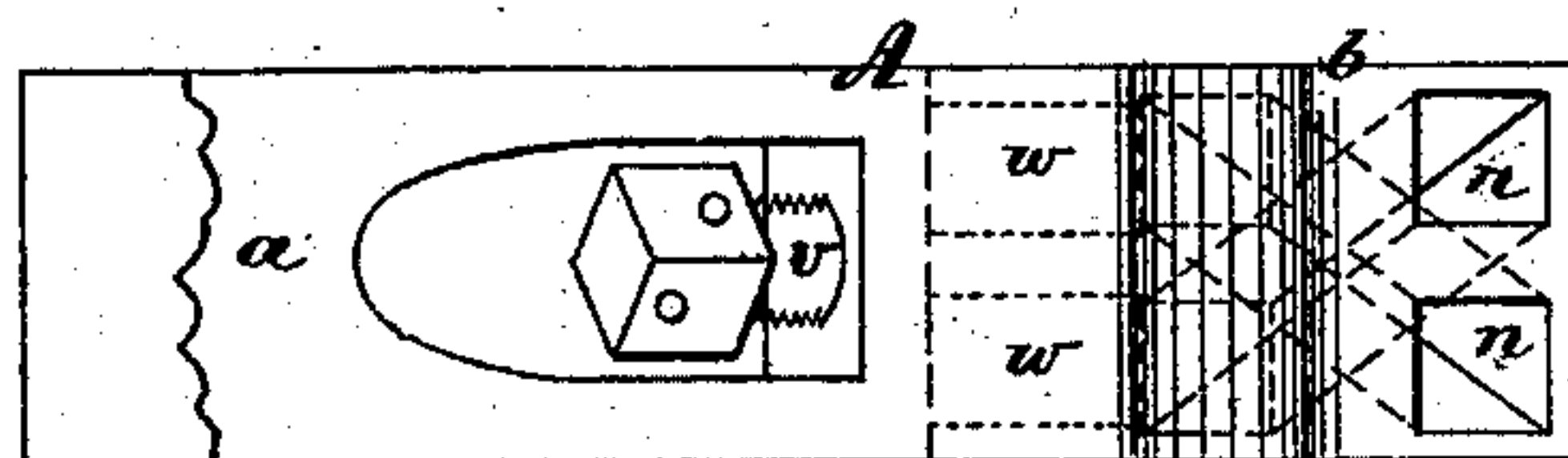
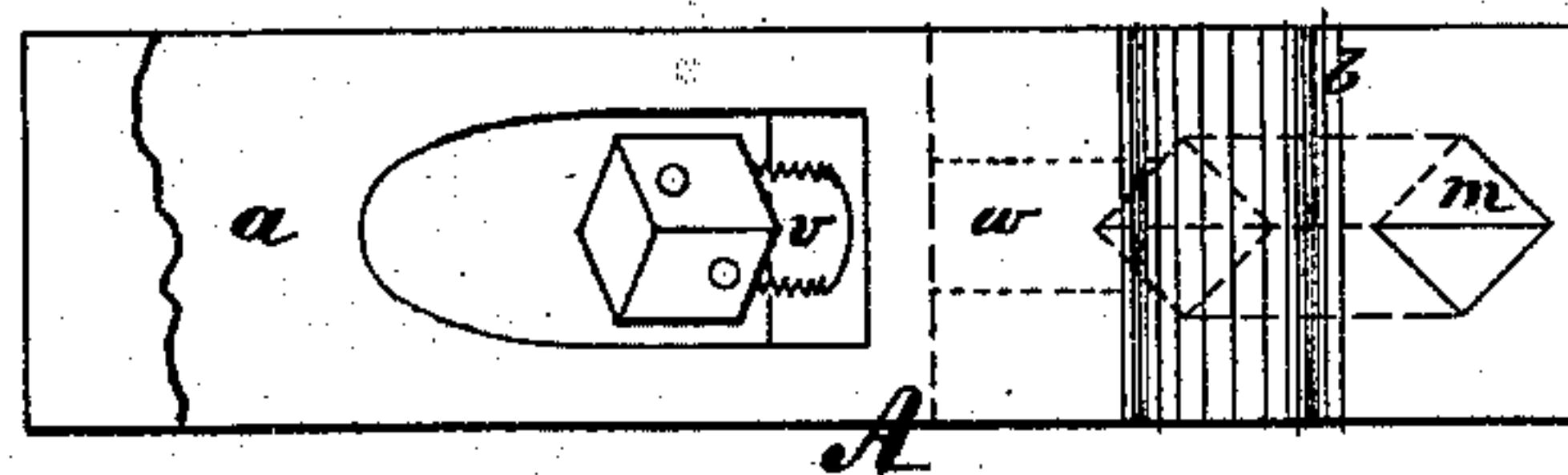


Fig. V.



Witnesses.

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JOHN F. ALLEN, OF NEW YORK, N. Y.

TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 238,322, dated March 1, 1881.

Application filed April 1, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. ALLEN, of New York, in the State of New York, have invented a new and useful Improvement in Tool-Holders, of which the following is a specification.

My invention relates to holders for tool blades or cutters; and it consists in the construction and combination of parts hereinafter set forth.

In the accompanying drawings, Figure I represents a side view of my improved tool-holder. Fig. II is an end view. Fig. III is a front view, and Fig. IV is a top view, of the same. Fig. V is a top view of a tool-holder for a single central or square tool.

Similar letters represent similar parts in all the figures.

A is the tool-holder, in which the shank or stock *a* is made square or oblong to fit into the tool-post, and is secured in the same in the usual manner. The head *b* of this tool-holder is made deeper to give sufficient bearing for the tool steel. In this head *b* of the tool-holder holes *n n* or *m* are made to receive the tool-steel or the tool proper, B. If a straight or central tool is required a hole, *m*, is made in the center of the tool-holder, as shown in Fig. V, and is placed at an angle with the horizontal plane of the tool-holder, at the same time the square hole is so cut as to present the corner angle of the tool steel to the work. For right and left handed tools two holes, grooves, or channels, *n n*, are made into and through the forward part or head, *b*, of the tool-holder, at a proper angle with the horizontal plane of the tool-holder in one direction, as seen in Fig. I, and diagonal to each other and to the front face of the tool-holder in the other direction, as shown in Figs. III and IV. In this case the sides of the holes *n n* may be cut parallel to the sides of the tool-holder, or only slightly inclined to the same. In large tool-holders the holes *n n* and *m* may be made in one and the same holder.

In the upper part of the tool-holder a set-screw, *v*, is arranged within the plane bounded by the sides of the shank, and in a direction to act nearly square against the back of the tool B; and in the lower part of the head *b* of the tool-holder a second set-screw, *w*, is arranged, likewise within the plane bounded by

the sides of the shank *a* of the tool-holder, and acting, consequently, diagonally upon the back of the tool B, and likewise diagonal to the set-screw *v*, by which arrangement a perfectly firm gripe on the tool B is obtained.

The steel tool B requires to be only about one-half of an inch square or round, and is applicable for a central as well as for a right or left handed tool, and requires only to have the edge or cutting-point ground, without any necessity for forging.

At the back of the tool steel slight recesses may be ground to increase the gripe of the set-screws and prevent slipping when taking a heavy cut. These recesses are readily ground, and will be found necessary for tool steel that is hardened throughout, such as Mushet's steel, and as they are at the back of the tool steel no further damage will thereby be done to the tool itself. The upper screw, *v*, bears against the blade or tool B in a line at right angles therewith, while the lower screw, *w*, being horizontal, bears against said blade in a line which makes an obtuse angle with said blade. The lines of pressure of these screws *v* and *w* would cross one another, if prolonged; hence their combined action on the blade is a converging pressure, which holds said blade much more firmly than a single set-screw or two set-screws pressing in parallel lines.

I am aware that it is not new to employ a screw for clamping a tool-blade in a holder; also, that it is not new to make tool-holders with several ways in them, for the purpose of allowing tool-blades to be set at different angles.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a tool-holder and a tool-blade held therein, a pair of set-screws which bind against said blade in converging lines of pressure, substantially as and for the purpose set forth.

2. In combination with tool-holder A and blade B, a pair of screws, *v w*, binding against said blade in converging lines of pressure, said blade being provided with recesses to receive the ends of said screws, substantially as and for the purpose set forth.

3. In combination with set-screws *v w*, one

above the other, and having converging lines of pressure, the stock A, having recesses or grooves extending in different directions, said screws working through screw-threaded passages into said grooves and clamping the blade B, substantially as shown.

4. The stock A, screw-tapped to receive fastening-screws *v* and *w*, recessed to receive the head of the upper screw, *v*, and provided with

two or more grooves or channels, *n*, which are inclined in different directions, in combination with said screws and with blade B, adapted to be shifted from one to another of said grooves or channels at will.

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Witnesses:

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